PATENT COOPERATION TREATY

PCT

TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference H2342-01			ce	FOR FURTHER A	CTION	See Form PCT/IPEA/416			
International application No.				International filing da	nte (day/month/year)	Priority date (day/month/year)			
PCT/JP2005/002560			560	18.02.200	5	19.02.2004			
Internati	ional Pa	tent Classification	(IPC) or natio	onal classification and	IPC				
C30B19/02, C30B29/38									
Applica	A It								
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.									
This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.									
2.	-				this cover sheet.				
3.									
a. (sent to the applicant and to the International			to the International Bu	ureau) a total of 3	sheets, as follows:				
	sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).								
	sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental								
	Box.								
	b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))								
	, containing a sequence listing and/or tables								
	related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).								
4.	Thisr	eport contains ind	ications relatio	ng to the following iter	ns:				
	\boxtimes	Box No. I	Basis of the	report					
		Box No. II	Priority						
		Box No. III	Non-establis	shment of opinion with	regard to novelty, inventi	ve step and industrial applicability			
		Box No. IV	Lack of unit	y of invention					
	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement								
		Box No. VI	Certain docu	uments cited					
		Box No. VII	Certain defe	ects in the international	application				
	\boxtimes	Box No. VIII	Certain obse	ervations on the interna	ational application				
Date of submission of the demand				Date of completion of thi	s report				
Name and mailing address of the IPEA/JP					Authorized officer				
Facsimile No.				Telephone No.					

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/002560

Box	k No. I	Basis of the report						
1.		h regard to the language , this report is based on the international cated under this item.	onal application in the language in	which it was filed, unless otherwise				
		This report is based on translations from the original langu which is the language of a translation furnished for the pur		,				
		international search (Rule 12.3 and 23.1(b))						
		publication of the international application (Rule 12.	4)					
		international preliminary examination (Rule 55.2 and						
2.	rece	h regard to the elements of the international application, thi iving Office in response to an invitation under Article 14 a report):						
		the international application as originally filed/furnished						
	\boxtimes	the description:						
		pages <u>1-30</u>		as originally filed/furnished				
		pages*	received by this Authority on					
		pages*	received by this Authority on					
	\boxtimes	the claims:						
		nos. 2-12 , 16-22 , 26-42		as originally filed/furnished				
		nos.*	as amended (togethe	r with any statement) under Article 19				
		nos.* _1, 14-15, 23-25	_ received by this Authority on	24.11.2005				
		nos.*	received by this Authority on					
	\boxtimes	the drawings:						
		sheets _ fig. 1-14		as originally filed/furnished				
		sheets*	received by this Authority on					
		sheets*	received by this Authority on					
		a sequence listing and/or any related table(s) – see Suppler	nental Box Relating to Sequence L	isting.				
3.	\boxtimes	The amendments have resulted in the cancellation of:	amendments have resulted in the cancellation of:					
		the description, pages						
		the claims, nos. 13						
		the drawings, sheets/figs						
		the sequence listing (specify):						
		any table(s) related to sequence listing (specify):						
4.		This report has been established as if (some of) the amen they have been considered to go beyond the disclosure as f						
		the description, pages						
		the claims, nos.						
		the drawings, sheets/figs						
		the sequence listing (specify):						
		any table(s) related to sequence listing (specify):						
*	If ite	em 4 applies, some or all of those sheets may be marked "su	perseded."					

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Claims 1-12, 14-42 YES

Claims Claims 1-12, 14-42 YES

NO

Inventive step (IS) Claims 1-12, 14-42 YES

Claims

Claims 1-12, 14-42 _____ YES

2. Citations and explanations (Rule 70.7)

Industrial applicability (IA)

- Document 1: JP 2004-300024 A (Matsushita Electric Industrial Co., Ltd., et al.), 28 October 2004
- Document 2: The Society of Chemical Engineers, Japan, "Kagaku Kogaku Binran," Dai 6 Pan, 1999
- Document 3: Fumio KAWAMURA, "Growth of Transparent, Large Size GaN Single Crystal with Low Dislocations Using Ca-Na Flux System," Jpn. J. Appl. Phys., Vol. 42, 2003, pages L729 to L731
- Document 4: JP 01-116013 A (Kawasaki Steel Corp.), 09 May 1989

Claims 1 to 12 and 14 to 42

The inventions set forth in claims 1 to 12 and 14 to 42 are novel and involve an inventive step in relation to documents 1 to 4 cited in the international search report.

In particular, documents 1 to 4 do not disclose the technique for growing single crystals of a group III nitride compound "while agitating" the liquid starting material so as to generate a flow whereby the liquid starting material flows from the gas/liquid interface,

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
where the liquid starting material comes into contact
with the gaseous starting material, towards the interior
of the liquid starting material. Furthermore, it would
not have been easy for a person skilled in the art to
conceive of the technique in question.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The disclosure in claim 31 is unclear. In particular, claim 31 sets forth a feature wherein the "pipe for connecting the aforementioned container and the outside of the aforementioned heating device has a structure such that at least either the aforementioned liquid starting material or the aforementioned other starting material is less susceptible to coagulation." However, the disclosure "less susceptible to coagulation" is vague, and merely signifies that there is a relatively low possibility of coagulation occurring; meanwhile, the structure of the pipe will differ significantly according to the desired degree of susceptibility to coagulation. Such being the case, the specific configuration of the production method set forth in claim 31, which employs a device for producing single crystals that comprises a pipe with the aforementioned "structure such that at least either the aforementioned liquid starting material or the aforementioned other starting material is less susceptible to coagulation," is unclear.